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ABSTRACT

The Pierce County Cooperative is a vocational and special education consortium of 12 school districts in the western part of Washington State. The Cooperative strives to improve the job entry capability and postsecondary educational opportunity for mildly handicapped learners within the participating districts by facilitating functional partnerships between vocational and special education. The program includes data collection, staff development, and onsite consultative assistance. Effective collaboration has been demonstrated by ongoing staff and administrator communication. Effective programming within the district/building seems to be characterized by attempts to provide preplacement planning, individual educational plan (IEP) collaboration, instructional support, and postplacement planning. An evaluation of program effectiveness was conducted by comparing 120 mildly handicapped Cooperative graduates to a baseline group of 120 similar students who graduated during the 3 years before program implementation, as well as to a group of 564 high school graduates. The study showed that the students who graduated from the Cooperative were either finding employment or were enrolling in postsecondary programs at significantly higher rates than the comparison groups. This was especially true for learning disabled students--mildly retarded students showed little change pre- and post-Cooperative. The study concluded that vocational education can be useful for special education students if care and resources are used in developing a cooperative program. (KC)

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CAN VOCATIONAL EDUCATION MAKE A DIFFERENCE FOR THE MILDLY HANDICAPPED?

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Abstract

This article reviews some of the basic assumptions of vocational education programs for mildly handicapped students. An overview of the Pierce County Vocational/Special Education Cooperative is presented along with data on the employment level, quality of employment, and attendance in postsecondary education settings of graduates of this program (N=120), a preintervention group (N=120), and a comparison cohort (N=564). Significant differences were noted in favor of the intervention group. A discussion of important variables in implementing an effective vocational education program for mildly handicapped students is provided.

CAN VOCATIONAL EDUCATION MAKE A DIFFERENCE FOR THE MILDLY HANDICAPPED?

As special education enters the 1990's, a pressing problem centers on how best to prepare mildly disabled youth (those students labeled learning disabled, mildly mentally retarded, seriously behaviorally disordered, sensory and health impaired) to enter the adult world. Since the passage of P.L. 94-142 there has been considerable emphasis on mainstreaming these youth into the regular education program. This practice has gained additional favor with the discussions centered around the Regular Education Initiative (REI) and the Excellence in Education movement which has focused on increasing graduation requirements. Segregated schools and classes for the mildly handicapped have decreased dramatically over the past five years. Educators are struggling in their attempts to maintain mildly handicapped students in the mainstream and to provide these students with marketable skills upon graduation.

Collaboration between vocational and special education at the local school district level, as one means of improving employmentrelated outcomes for handicapped youth, has been promoted for nearly two decades (Young, 1970; Comptroller General of the United States, 1976). Federal legislation such as the Education for All Handicapped Act (P.L. 92-142), the Carl D.

Perkins Vocational Education Act of 1984 (P.L. 98-524), and recent federal initiatives aimed at the transition of handicapped learners into the world of work all recommend that meaningful occupational preparation be part of the high school experience for students with disabilities. Although many programs have been proposed to address these mandates, there is little evidence that these programs have accomplished their intended outcomes (Albright, 1986; Phelps, 1986).

A substantial body of knowledge indicates that programs designed by either vocational or special education (independently) to occupationally prepare mildly handicapped learners at the high school level have not been successful. From numerous follow-up studies of graduates of special education, there is ample evidence that about 60% of special education graduates obtain employment within a year of exiting the public schools (Hasazi, Gordon, & Roe, 1985; Mithaug, Horiuchi, & Fanning, 1985). However, these studies have not reported data on students by specific types of disabilities. In a Washington State study, learning disabled students were found to be employed at a rate of 66%, and mildly retarded students at a rate of 49%, as compared to 70% for nonhandicapped students (Edgar & Levine, 1987). Thus, it appears that analysis of the post-school status of special education graduates should be explored by type of disability.

The impact of vocational education on the employment of special education graduates has been difficult to determine. In Vermont, Hasazi, Gordon, and Roe (1985) report no differences in the employment rates of students who have participated in vocational education programs. Proponents of vocational education (Conaway, 1987), argue that the quality of the vocational education program is the major factor in determining postschool employment success of special education students.

The quality (and quantity) of vocational education programs available for mildly handicapped students is an important issue to be addressed. Most of the reported studies use attendance in any type of vocational class as a proxy for vocational education. This logic seems faulty. Why should anyone expect that simple enrollment in home economics, keyboarding, or industrial arts courses have a significant impact on the postschool outcomes of students? The analogy would be to expect that simple enrollment in a survey course of Exceptional Children would enable regular education teachers to become special education teachers.

If vocational education is to have any meaningful impact on the postschool status of students, the vocational education involvement needs to consist of a carefully planned and implemented sequence of experiences. This needs to include a definable range of options, a sequential offering of course work leading to a marketable set of skills, well-trained vocational and

special education teams, a process which promotes communication and planning between vocational and special education personnel, and an ongoing support system. The Pierce County Vocational/Special Education Cooperative offers such a program.

The Pierce County Vocational/Special Education Cooperative

The Pierce County Cooperative is a vocational and special education consortium of twelve school districts in the western part of Washington State. The purpose of the Cooperative is to improve the job entry capability and postsecondary educational opportunity for mildly handicapped learners within the participating districts by facilitating functional partnerships between vocational and special education. There are two levels of application in the Cooperative model: inter and intradistrict. Interdistrict applications involve consolidation and collaboration at the county level. Intradistrict applications involve those initiatives and actions that occur within the districts and buildings. These relationships are shown in Figure 1.

Interdistrict Applications

There are three major components of the inderdistrict application of the Pierce County Cooperative. These include: data collection, staff development, and on-site consultative assistance. Data collection involves the consistent monitoring of

(1) vocational education staff perceptions of their role in the Individualized Education Program (IEP) process, (2) actual enrollment patterns of mildly handicapped learners in the various vocational education program offerings, (3) the appearance of vocationally-related goal statements on student IEPs, and (4) annual follow-up surveys of mildly handicapped graduates.

Staff development entails perhaps the most extensive component of the Cooperative mission and includes the maintenance of a 3,500 item instructional materials center, the provision of at least three thirty (30) clock hour training programs for local vocational and special education personnel each calendar year, the awarding of 10-15 thirty clock hour internships with industry each summer, and the development of various process models relating to vocational education assessment, IEP collaboration, etc. Further, a special 120 clock hour training program is available in alternate years for vocational resource instructors, or special education certificated liaison personnel to act as support service providers to mildly handicapped learners enrolled in vocational education programs.

To date, the Cooperative has sponsored over 11,000 hours of staff development. Approximately 60% of the 300 secondary vocational and special education teachers in Pierce County have

completed at least one 30 hour element of the staff development program.

The third major component of on-site consultative assistance is provided to participating districts as part of the interdistrict application. The program director meets with groups of local administrators and staff from each individual district at least once per month during the school year. The purpose of these meetings is to assist in the development and initiation of local district implementation plans, or individual district responses to the collaboration of vocational and special education which are unique to each district. These local implementation plans form the basis of the intradistrict applications.

Governance of the Cooperative is vested in an advisory committee of vocational and special education administrators from the participating districts. Ex-officio advisory committee members include parent advocacy groups and out-of-school agencies. Responsibility for annual fee setting, expenditures, and programs of work give the advisory committee a strong sense of participative management. Data collection, staff development, and on-site consultative assistance information is continually provided for advisory committee consumption.

Intradistrict Applications

The twelve districts served by the Pierce County Cooperative range in size from the second to the one hundred and fortieth largest districts in the state. This diversity has created the need to establish some commonality in the services available in each district, yet avoid a strictly prescribed set of procedures that could not be easily implemented. The flexibility in intradistrict applications of the Cooperative enables each district to tailor their own programs within the context of vocational and special education collaboration, and remain committed to the overall Cooperative purpose.

Based on the interdistrict applications over the past several years, eight indicators of effective intradistrict collaboration have emerged. Four of the indicators are communication related and four are program related.

A large portion of the success of the Pierce County Cooperative can be attributed to the emphasis on ongoing staff and administrator communication. At the individual district or building level, communication between key players becomes the framework in which important decisions regarding individual students are made. The communication framework is constantly evaluated for effectiveness and breakdowns by examining the identified communication channels. This allows the Cooperative's program director to intervene and facilitate when necessary, plus

provide the district or building with a way to identify potential communication barriers.

Effective programming within the district/building seem to be characterized by reasonable attempts to provide (1) preplacement planning, (2) IEP collaboration, (3) instructional support, and (4) postplacement planning.

The essential question posed by preplacement planning is, which of the available vocational education options is most appropriate for each student? The answer to this question obviously involves a sufficient amount of vocational interest, aptitude, and prior occupational experience information as well as matching such information with the various physical, social, and intellectual aspects of each available program.

Collaboration between all pertinent individuals (students, teachers, parents) in the IEP process represents the second major program consideration. Vocational staff knowledge of the student's learning characteristics, style, and instructional accommodations prior to placement can only serve to solidify the decisions made in preplacement planning. Likewise, special education staff, parents, and students have the opportunity to become knowledgeable of and enter various vocational education programs by design rather than chance. IEP collaboration is an overt attempt to maximize the vocational education experience.

The availability of instructional support to mildly handicapped learners in vocational education represents another important element of the intradistrict application. Instructional support involves special education staff supplementing the instruction that occurs in the vocational environment. It includes relevant vocabulary, essential math operations, and coordinated movements. The previously mentioned related vocational instructors play a major role in the provision of instructional support throughout Pierce County.

Postplacement planning has as its major focus, what next? Some typical questions in this regard include: Is the current vocational program in which the student is enrolled still a valid placement decision? Does the next course in the vocational sequence represent a logical progression? Is the student job ready? Is postsecondary education a viable goal? and, What degree of out-of-school agency involvement is necessary for occupational success?

Clearly, there are many different combinations of resources and strategies that can be extended and utilized in the variety of challenges that occur at the local level. However, the Pierce County Cooperative must operate at both the inter and intradistrict levels to be effective. Interdistrict collaboration enables the partnership between vocational and special education to benefit from collective actions, and intradistrict

collaboration leads to concrete steps on behalf of individual students in each district and building.

Evaluating Effectiveness of the Pierce County Cooperative (PCC)

From the onset of the project, there was considerable interest in conducting a careful evaluation of its outcomes. Although the advisory committee generally agreed that vocational education was an appropriate option for mildly handicapped students, there was a continuing desire to validate the program's actual outcomes. From the program's beginning in 1983-84, a plan was formulated to use students who had graduated before 1984 as a baseline cohort. As the Cooperative designed the final evaluation plan, it reached an agreement with the University of Washington to use data from an ongoing follow-along study of special education graduates from 15 school districts as a comparison cohort. The comparison cohort represeted mildly handicapped student who had graduated in the 1984, 1985, and 1986 school years. More detailed information on this study can be found in Edgar (1987) and Edgar and Levine (1987).

Method

To determine program effectiveness, mildly handicapped Cooperative graduates were compared to a baseline group of similar

students who graduated in the county during the 3 years before program implementation. A second set of comparisons was made to a cohort drawn from surrounding counties with similar employment and postsecondary opportunities who graduated from high school during the same 3 years that the Cooperative was operating.

Sample

The Pierce County sample used to assess the effectiveness of the intervention consisted of 240 mildly handicapped learners who graduated from the 12 participating school districts. Three groups of 40 students (120 total) who graduated in 1981, 1982, and 1983 constituted the baseline group, and the three groups of 40 students (120 total) who graduated in 1984, 1985, and 1986 constituted the postintervention group. Merged and alphabetized lists of graduates were given sequential numbers for each reporting year. A random assignment process was used to establish annual sets of 40 students from 1981 to 1986. Whenever a selected subject could not be reached because of outdated records, the name that appeared next in the alphabetized county-wide list was selected. The evaluator was able to contact the required 240 subjects in 390 attempts for a rate of 62%. No significant differences in the contact rate were found between baseline and postintervention groups. The total number of mildly handicapped graduates for the 6 years was 1,093, with an average of 182

graduates per year. Therefore, the sample represented approximately 22% of the population.

The sample was checked for representativeness on two important variables--sex and handicapping condition--and was found to closely parallel the population on both counts. Because handicapping condition was an extremely important independent variable, the sample was further examined to ensure that types of handicaps were evenly distributed across the baseline and postintervention groups. Table 1 shows their similarity and legitimizes comparisons between the two.

(Insert Table 1 about here)

University of Washington

The cohort population represents all the students labeled mildly mentally retarded, learning disabled, behavior disordered, and health impaired who graduated from 15 school districts in Washington State during 1984, 1985, and 1986. The sample represented approximately 60% (564) of the population, and is based on the families who could be reached by telephone.

Instrumentation

For each student in the randomly generated sample, the project staff compiled a profile sheet from the district records. This information was then verified and extended through a structured telephone interview process. The result was a profile

sheet which provided individual student information on all predefined variables.

While employment is a relatively stable variable, the employment status of an individual is transitory in that it changes from day to day. The specific time chosen for this evaluation was 9 months after graduation from high school.

For this study, we defined employment as gainful, permanent, nonsubsized, full-time employment obtained within 9 months of high school graduation. Quality of employment was defined according to three categories: general labor, semi-skilled, and skilled. In order to determine quality of employment; the job titles and descriptions provided by interviewees were categorized by two occupational information specialists. The interrater reliability was .96.

Enrollment in postsecondary education was defined as either part-time or full-time attendance at a postsecondary institution (university, community college, or voc-tech facility) in the pursuit of either vocational or academic training.

Engaged was defined as either "employed" or "enrolled" in a postsecondary education program.

Data Analysis

Because the data were categorical, the analysis procedure was the chi square test of independence. For purposes of

interpretation, the data describing the 3 year preintervention condition (1981-1983) were collapsed to produce a "baseline" estimate. Data describing graduates of the Cooperative (1984-86) and those describing the cohort of other handicapped graduates (from the U.W. study 1984-1986) were also collapsed to yield "intervention" and "comparison" estimates respectively.

Results

Data describing graduating handicapped students' levels of engagement (employed and/or enrolled) for the period 1981-1986 are presented in Table 2. A significant [x^2 (2, N=240) = 3.70, $p < .05$] increase in excess of 9% over baseline was demonstrated by the Cooperative group.

When engagement data for PCC graduates were contrasted with those for the U.W. cohort of students who graduated during the same time frame (Table 2), significant [x^2 (2, N=684) = 74.74, $p < .001$] differences were also noted. PCC graduates were engaged at a rate 18% higher than were graduates (U.W. cohort) from surrounding and similar counties.

(Insert Table 2 about here)

PCC graduates are separately contrasted with the U.W. cohort on rates of employment and enrollment in Tables 3 and 4. From these data, it is evident that PCC students were in a

significantly better position following graduation than were students in the equivalent comparison group. Cooperative graduates were employed at a rate 17% higher [x^2 (2, N=684) = 13.05, $p < .001$] and enrolled at a rate 18% higher [x^2 (2, N=684) = 16.34, $p < .001$] than were graduates from surrounding districts at the 9-month interval.

When PCC students were contrasted with their baselines on individual rates of employment and enrollment, no significant differences were seen.

(Insert Tables 3 and 4 about here)

When quality of enrollment and employment were examined individually, however, significant gains over baseline were seen for both variables. These data are represented in Table 5. Here, it is clearly evident that not only had the rate of engagement increased during the Cooperative years, but so too had the quality of engagement. There was a significant [x^2 (2, N=171) = 19.84, $p < .001$] shift away from general labor and toward skilled employment (Table 5).

(Insert Table 5 about here)

When the PCC did not focus its attention on students with particular handicaps, we hypothesized that the intervention would most greatly benefit learning disabled students than students with other types of handicaps on measures of employment. When employment data for graduated LD students are examined (Table 6),

a marked and significant [$x^2(2, N=176) = 9.70, p < .001$] difference is noted between the rates of pre-Cooperative and Cooperative graduates as well as between Cooperative graduates and the U.W. Cohort [$x^2(2, N=474) = 69.41, p < .001$].

(Insert Table 6 about here)

Discussion

From the data presented, it is clear that the conditions existing after implementation of the Cooperative were very different from those during the 3 years before intervention. As a total group, the students were either finding employment or were enrolling in postsecondary programs at significantly higher rates than the comparison groups.

Learning disabled PCC graduates seemed to account for this difference because the subanalysis by disability type indicates that there was little difference for the mildly retarded students based on the pre and post introduction of the Cooperative.

We believe that a well planned and implemented vocational education program will have positive results for many mildly handicapped students. The emphasis in this statement is a well planned and implemented program. To our way of thinking, the following four components of a collaborative vocational and special education program are the crucial variables.

Options

For vocational education programs to be effective for any group of students, there must be multiple options of coursework which provide sequential experiences resulting in marketable skills. for example, there needs to be options in types of skill training such as agriculture, home economics, trade and industrial, technical, business and office, and marketing occupations. For each of these options, there needs to be sequential course offerings which begin at a basic level and progress to a point where the students have marketable skills. In other words, the total spectrum of vocational education must be utilized, not just one or two programs or program elements.

Trained Staff

Vocational education teachers have expertise in their basic content area. However, instructional delivery skills may be limited concerning the unique needs of handicapped learners. When any student, especially a special education student, has difficulty learning a specific skill, the vocational teacher needs strategies and techniques for altering the instructional process and procedures. Inservice training for vocational teachers is thus very important. In addition, communication for planning purposes and ongoing consultation with special education personnel

is crucial, and requires some training for many vocational teachers to fully utilize the available services.

While special education staff have skills in a variety of instructional techniques, they often lack knowledge of the content and expectations from student behavior in various vocational classes. This additional training for special education staff in vocational content and student expectations is needed so appropriate referrals can be made to vocational courses. For example, referring nonreaders to a small engine repair course may not be appropriate unless alternatives to reading repair manuals can be developed. Special education staff also need training in providing consultation to vocational teachers regarding instructional modification and cooperative planning.

Ongoing Support

One shot training, even if intensive and well planned, seldom is sufficient to maintain a program as complex as the Pierce County Cooperative. After six years of operation, it has become clear that continual ongoing support from a central administrative staff is necessary to maintain productive interactions between special education and vocational education staff. Not only have all staff been offered the opportunity to participate in the formal inservice training classes, but project staff have been available to troubleshoot, offer instructional

materials, and assist in planning for individual students. Project staff are also available to assist in IEP planning and individual problem solving. Throughout the history of the Cooperative, there have been numerous times when project staff have been called upon to assist in improving the communication between vocational and special education staff. In instances when both groups have been involved in the inservice classes, this task has been easier than when one or both groups have not been so involved. However, we have found that inservice training alone cannot replace the need for ongoing consultation.

Emphasis on Communication and Planning

The heart of the Pierce County Cooperative is the open and ongoing communication and planning between the line vocational and special education staff. Misconception, stereotypes, and territoriality issues plague any interaction between special education staff and regular or vocational education personnel. Labels on students impact the perceptions of vocational staff. They need support in their attempts to get to know students as students, rather than learning disabled, mentally retarded, or handicapped people. Given awareness and opportunity, most vocational staff will come to view special education students more like other students, but they need support during this learning phase.

Special education staff often have the idea that vocational classes are good places for students who are noncompliant or can't read well. This obviously results in negative experiences for the student and vocational teacher. It also decreases the opportunity to place other students in such a program in the future. On the other hand, when placements are carefully made based on student skills and interests, and when ongoing support to the vocational teacher is provided, positive outcomes are the result. Establishing effective communication and planning support systems between vocational teachers and special education staff is the key.

Vocational education can be an important aspect of secondary education for special education students if care and resources are used in developing a cooperative program. Merely placing special education students in a vocational education course is not the answer. The Pierce County Cooperative has served to demonstrate that a series of concentrated, coordinated activities in and among vocational and special education service providers can equate to an improved occupational outlook for mildly handicapped learners.

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Figure 1

PIERCE COUNTY VOCATIONAL/SPECIAL EDUCATION COOPERATIVE

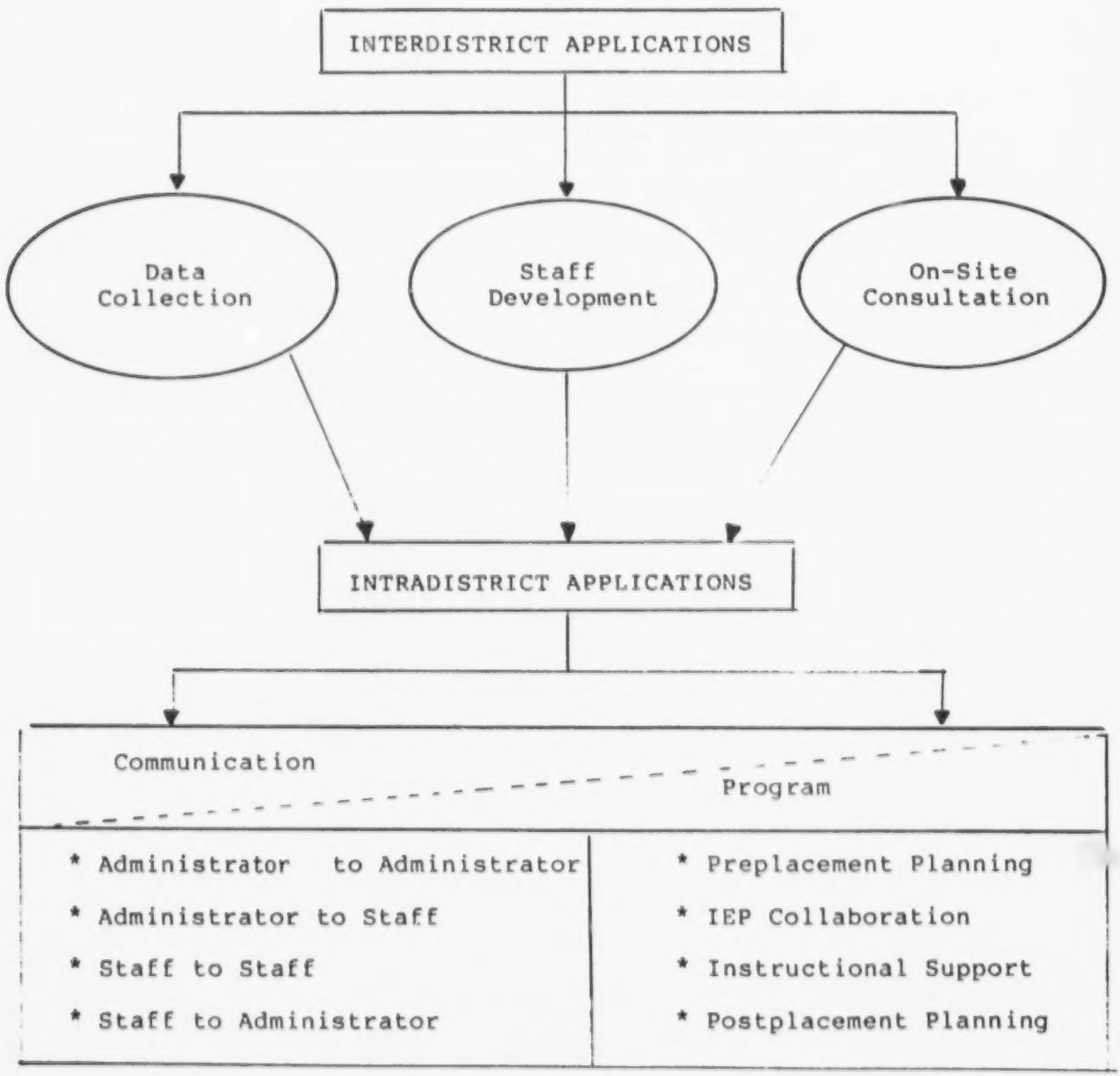

Table 1

Disability Type

Disability	Baseline Cohort 1981-83	PCC 1984-86	U.W. Comparison Cohort 1984-86
Learning Disabled			
N	88	88	386
%	73	73	69
Mildly Mentally Retarded			
N	14	15	98
%	12	13	17
Other (Emotionally Disturbed, Health Impaired)			
N	18	17	80
%	15	14	14
TOTALS	120	120	564

Table 2

Engagement Rates for Baseline, PCC, and Cohort Groups

	Base 1981-83	PCC 1984-86	U.W. Cohort 1984-86
Engaged			
N	99	110	414
%	82.5	91.7	73.4
Not Engaged			
N	21	10	150
%	17.5	8.3	26.6
TOTAL	120	120	564

a

b

[a] $\chi^2(2, N=240) = 3.70, p<.05$

[b] $\chi^2(2, N=684) = 74.74, p<.001$

Table 3

Baseline, Cooperative and Cohort Employment Rates

	Base 1981-83	PCC 1984-86	U.W. Cohort 1984-86
Employed			
N	79	92	334
%	65.8	76.9	59.2
Not Employed			
N	41	28	230
%	34.2	23.3	40.8
TOTAL	120	120	564

a

b

[a] $\chi^2(2, N=240) = 2.93, p < .08$

[b] $\chi^2(2, N=684) = 13.05, p < .001$

Table 4

Baseline, Cooperative, and Cohort Enrollment Rates

	Base 1981-83	PCC 1984-86	U.W. Cohort 1984-86
Enrolled			
N	46	54	153
%	38.3	45	27.1
Not Enrolled			
N	74	66	411
%	61.7	55	73.9
TOTAL	120	120	564

a

$\chi^2(2, N=240) = .84, p < .359$

b

$\chi^2(2, N=684) = 16.34, p < .001$

Table 5

Quality of Employment Obtained by Baseline and Cooperative Graduates

	Base 1981-83	PCC 1984-86
General Labor		
N	56	35
%	70.9	38
Semi-skilled		
N	21	45
%	26.6	48.9
Skilled		
N	2	12
%	2.5	13
TOTAL	79	92

[a]

[a] $\chi^2(2, N=171) = 19.84, p<.001$

Table 6

Baseline, Cooperative, and Cohort Employment Rates for Learning Disabled Graduates

	Base 1981-83	PCC 1984-86	U.W. Cohort 1984-86
Employed			
N	60	78	255
%	68.2	88.6	66.1
Not Employed			
N	28	10	131
%	31.1	11.4	33.9
TOTALS	88	88	386

a

$\chi^2(2, N=176) = 9.7, p < .001$

b

$\chi^2(2, N=474) = 69.41, p < .001$